

Claims

1. A system for the detection of the presence of objects in a blind angle of an automobile vehicle, installed in an automobile vehicle and comprising first means of detection (1) of distortion of the earth's magnetic field caused by the entry of an object, containing at least one ferromagnetic material piece, in a zone of said blind angle covered by said first means of detection (1) that supplies electric signals, on the basis of the value of said magnetic field, to an electronic circuit (5) with a digitising stage for said signals, a stage that analyses the signals obtained after said digitising and a stage that generates variable output signals on the basis of the results of said analysis, **characterised** in that it further comprises second means of detection (2) for any possible magnetic distortion generated from the trajectory of said automobile vehicle, associated with said electronic circuit (5) and intended to neutralise the influence of said possible magnetic distortion on the detection of said first means (1).  
15 2. A detection system in accordance with claim 1, **characterised** in that it further comprises third means of detection (3) of any possible magnetic distortion deriving from the vehicle's inclination and/or vibration, associated with the cited electronic circuit (5).
3. A detection system in accordance with claim 1, **characterised** in that it further comprises fourth means of detection (4) of any possible magnetic distortion deriving from magnetic fields generated within the vehicle, associated with the cited electronic circuit (5).
4. A detection system in accordance with claim 1, **characterised** in that said second means of detection (2) incorporate at least one accelerometer.
- 25 5. A detection system in accordance with claim 1, **characterised** in that said second means of detection (2) comprise at least some means of data acquisition employing a turning sensing pulse system located at least on one of the vehicle's wheels.
6. A detection system in accordance with claim 1, **characterised** in that said second means of detection (2) comprise at least one turning detection device located on the vehicle's steering wheel.  
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7. A detection system in accordance with claim 2, characterised in that said second means of detection (2) and third means of detection (3) comprise at least one 2-axis accelerometer.

8. A detection system in accordance with claim 3, characterised in 5 that said fourth means of detection (4) comprise at least two magnetic field sensors located inside the vehicle, connected in common mode, distanced from each other and positioned in such a manner that they generate very similar output signals when one of said magnetic fields is produced inside the vehicle.

9. A detection system in accordance with claim 1, characterised in 10 that said first means of detection (1) comprise at least one magnetic sensor (6) housed inside a rear-view mirror assembly outside the vehicle.

10. A detection system in accordance with claim 8 or 9, characterised in that said sensors are magnetoresistive.

11. A detection system in accordance with claim 8 or 9, characterised 15 in that said sensors are those of a group formed by flux-gate magnetometers, hall type sensors and magneto-inductive sensors.

12. A method of detection of the presence of objects in a blind angle of an automobile vehicle of the type that, through the use of some first means of detection (1) of distortion in the earth's magnetic field caused by the entry of an 20 object, which contains at least one ferromagnetic material, in a zone of said blind angle covered by said first means of detection (1) and an electronic system, comprises carrying out the detection of the entry of said object into said zone, obtaining signals that represent said detection, processing and analysing of said signals and generating of some variable output signals on the basis of the results 25 of said analysis, characterised in that it further includes carrying out, by means of said electronic system and at least some second means of detection (2), the detection of possible magnetic distortion deriving from said automobile vehicle's trajectory, and the processing and analysis of signals that are representative of said possible magnetic distortion deriving from the automobile vehicle's 30 trajectory, in order to neutralise its effect on the detection obtained by the first means of detection (1).

13. A method of detection in accordance with claim 12, characterised in that it further comprises carrying out, using said electronic system and at some

third means of detection (3) of possible magnetic distortion deriving from the inclination and/or vibration of the automobile vehicle, the processing and analysis of signals representative of said possible magnetic distortion deriving from the inclination and/or vibration of the automobile vehicle in order to neutralise their  
5 effect on the detection obtained by the first means of detection (1).

14. A method of detection in accordance with claim 13, characterised in that it further comprises carrying out, by means of said electronic system and some fourth means of detection (4) of possible magnetic distortion produced by magnetic fields generated inside the actual vehicle, the processing and analysis  
10 of signals representative of said magnetic distortion produced by magnetic fields generated inside the actual vehicle in order to neutralise their effect on the detection obtained by the first means of detection (1).

15. A method of detection in accordance with claim 14, characterised in that for each of the possible trajectories adopted by the vehicle and/or of the  
15 possible positions of inclination and/or vibration suffered by the same and/or of the magnetic fields generated inside the actual vehicle, after said processing and analysis of the signals representative of the possible magnetic distortion, it comprises the storage, by means of the electronic system (5), of distortion values of the earth's magnetic field, with these values forming a table that relates  
20 trajectory, inclination and/or vibration or magnetic fields generated inside the vehicle with the corresponding distortion of the magnetic field due to the specific circumstances.

16. A method of detection in accordance with claim 15, characterised in that at least one of said values, representative of the vehicle's circumstances at  
25 any moment, with said circumstances being known through the second, third and fourth means of detection, is processed with the distortion value of the earth's magnetic field obtained by the first means of detection (1) for this same instant.